

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/054918 A1

(51) International Patent Classification⁷: **G02B 6/26**

(21) International Application Number:
PCT/SE2004/001774

(22) International Filing Date:
30 November 2004 (30.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/481,726 1 December 2003 (01.12.2003) US
0303223-2 1 December 2003 (01.12.2003) SE

58 Stockholm (SE). **KARLSSON, Staffan** [SE/SE];
Sturegatan 20 B, S-752 23 Uppsala (SE). **OLIN, Ulf**
[SE/SE]; Vivstavarvsvägen 169, S-122 43 Enskede (SE).

(74) Agent: **ALBIHNS STOCKHOLM AB**; P.O. Box 5581,
Linnégatan 2, S-114 85 Stockholm (SE).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant (*for all designated States except US*): **CERNOLUX AB** [SE/SE]; Margaretabacken 9, S-187 74 Täby (SE).

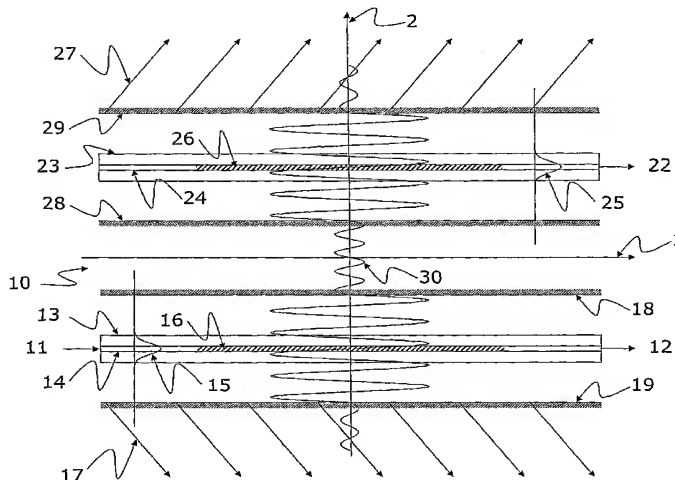
(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **HENRIKSSON, Anders** [SE/SE]; Kvikrotsgränd 52, S-165 76 Hässelby (SE). **JONSSON, Fredrik** [SE/SE]; Grevgatan 49, S-114

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: WAVELENGTH SELECTIVE DEVICE



(57) Abstract: The present invention relates to a device, method, array and use of the device for optical coupling. The device comprises first and second optical waveguides (13, 23) extending longitudinally with cores (14, 24) adapted to guide optical radiation (15), first resonator means, laterally surrounding the first waveguide, comprising first and second resonator members (18, 19), and second resonator means, laterally surrounding the second waveguide, comprising third and fourth resonator members (28, 29). The invention is characterised in that first and second deflector means (16, 26) are adapted to couple radiation propagating in the respective first and second waveguides with common radiation modes (30), which modes are defined by adjustable geometrical and material properties of the device, so as to obtain wavelength selective coupling of radiation guided by the first and second waveguides, provided the resonator means are tuned to the same resonance wavelength.

WO 2005/054918 A1



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.